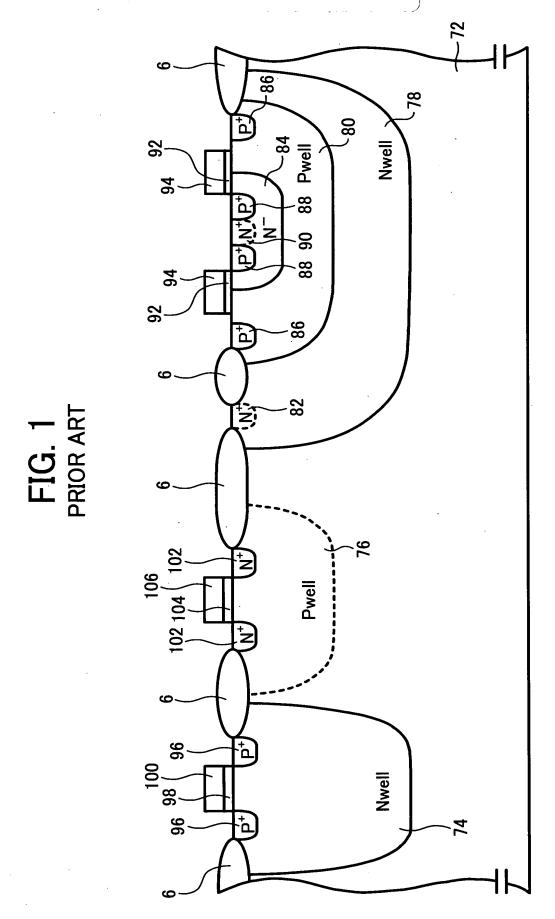
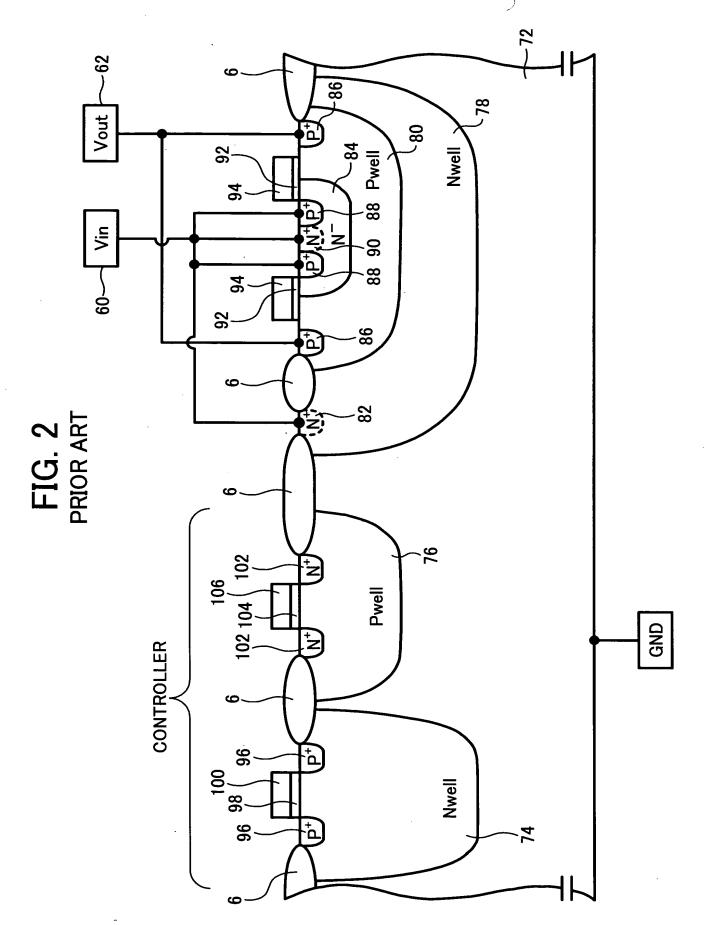
App No.: Not Yet Assigned Docket No.: R2180.0189/P189
Inventor: Takaaki Negoro et al.
Title: SEMICONDUCTOR DEVICE HAVING DMOS AND CMOS
ON SINGLE SUBSTRATE Docket No.: R2180.0189/P189

Sheet 1 of 25



Docket No.: R2180.0189/P189 App No.: Not Yet Assigned Docket No.: R2180.0189/P189
Inventor: Takaaki Negoro et al.
Title: SEMICONDUCTOR DEVICE HAVING DMOS AND CMOS
ON SINGLE SUBSTRATE

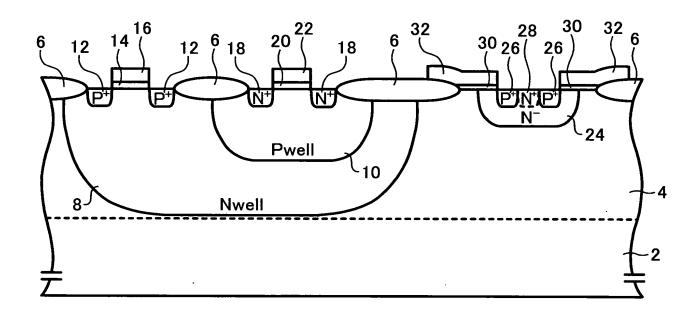
Sheet 2 of 25



App No.: Not Yet Assigned Docket No.: R2180.0189/P189
Inventor: Takaaki Negoro et al.
Title: SEMICONDUCTOR DEVICE HAVING DMOS AND CMOS
ON SINGLE SUBSTRATE Docket No.: R2180.0189/P189

Sheet 3 of 25

FIG. 3



App No.: Not Yet Assigned Docket No.: R2180.0189/P189 Inventor: Takaaki Negoro et al.

Inventor: Takaaki Negoro et al.

Title: SEMICONDUCTOR DEVICE HAVING DMOS AND CMOS

ON SINGLE SUBSTRATE

Sheet 4 of 25

FIG. 4A

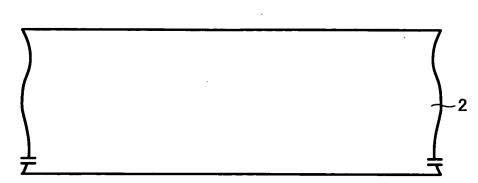


FIG. 4B

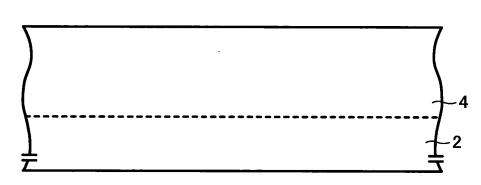


FIG. 4C

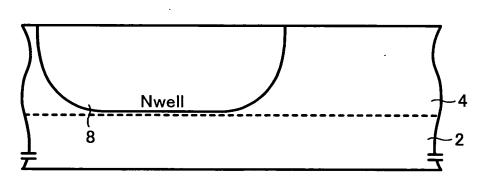
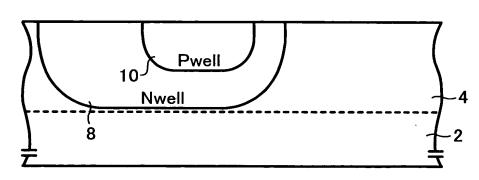


FIG. 4D



App No.: Not Yet Assigned Docket No.: R2180.0189/P189
Inventor: Takaaki Negoro et al.
Title: SEMICONDUCTOR DEVICE HAVING DMOS AND CMOS Docket No.: R2180.0189/P189

ON SINGLE SUBSTRATE

Sheet 5 of 25

FIG. 4E

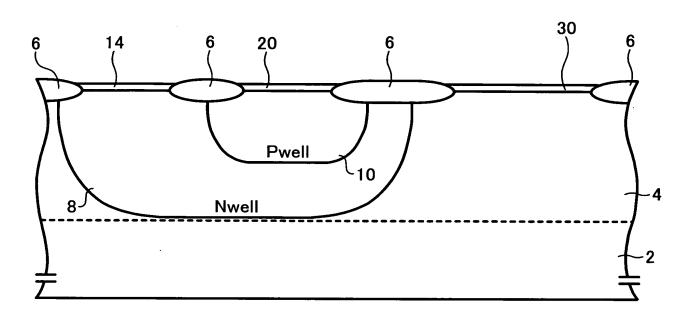
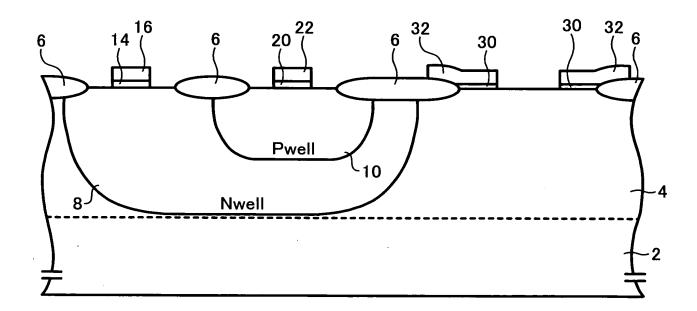


FIG. 4F



App No.: Not Yet Assigned Docket No.: R2180.0189/P189
Inventor: Takaaki Negoro et al.
Title: SEMICONDUCTOR DEVICE HAVING DMOS AND CMOS Docket No.: R2180.0189/P189

ON SINGLE SUBSTRATE

Sheet 6 of 25

FIG. 4G

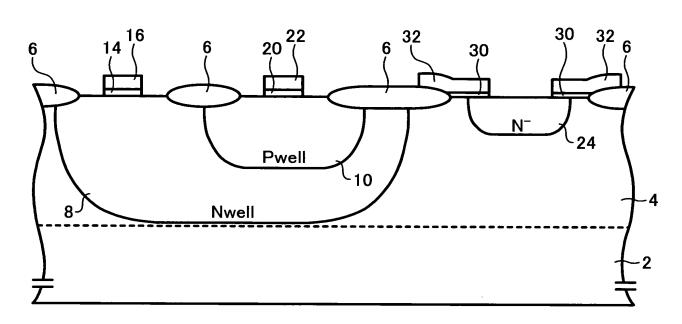
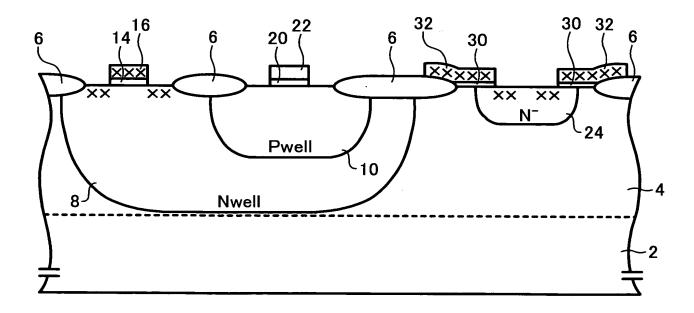


FIG. 4H



Docket No.: R2180.0189/P189

Title: SEMICONDUCTOR DEVICE HAVING DMOS AND CMOS

ON SINGLE SUBSTRATE

- - - -

Sheet 7 of 25

FIG. 5

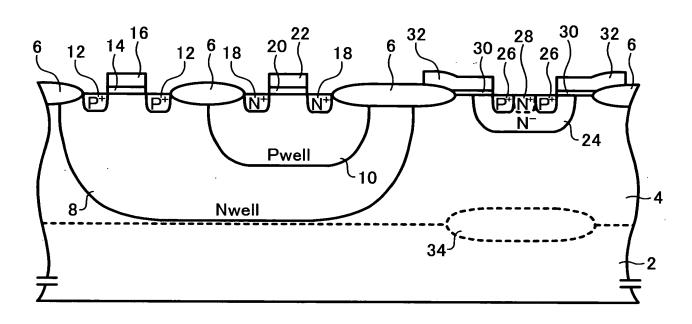
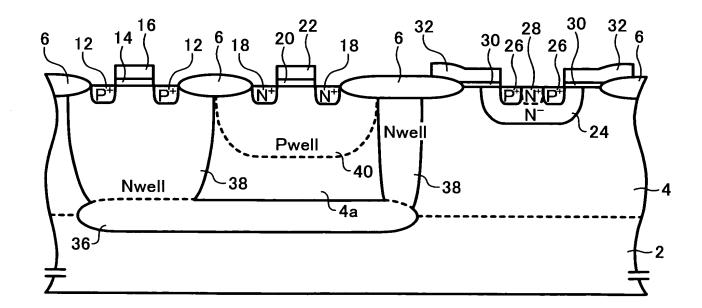


FIG. 6



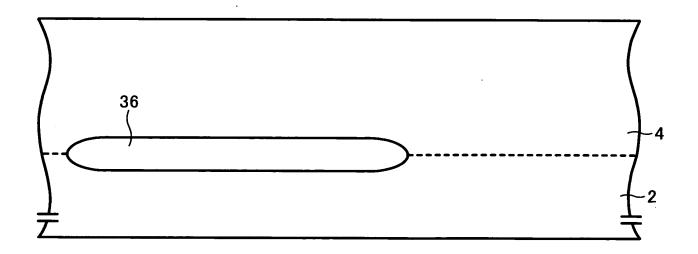
App No.: Not Yet Assigned Docket No.: R2180.0189/P189
Inventor: Takaaki Negoro et al.
Title: SEMICONDUCTOR DEVICE HAVING DMOS AND CMOS Docket No.: R2180.0189/P189

ON SINGLE SUBSTRATE

Sheet 8 of 25

FIG. 7A 36 -2

FIG. 7B



Docket No.: R2180.0189/P189

Title: SEMICONDUCTOR DEVICE HAVING DMOS AND CMOS

ON SINGLE SUBSTRATE

Sheet 9 of 25

FIG. 7C

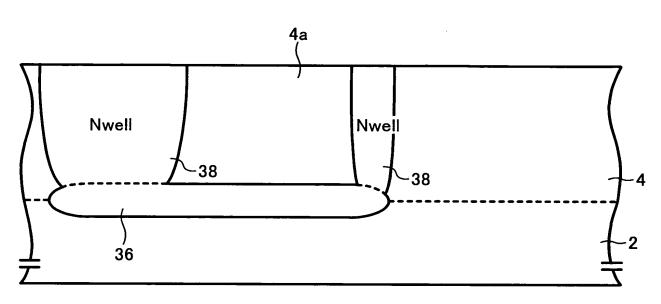
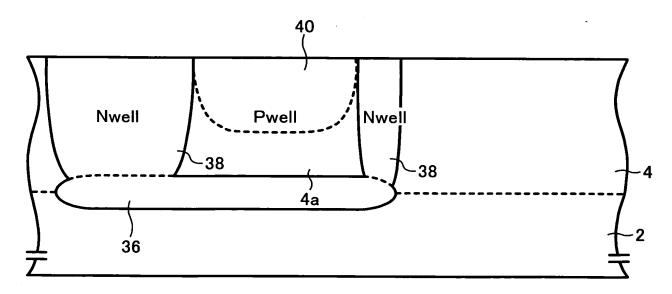


FIG. 7D



Docket No.: R2180.0189/P189

App No.: Not Yet Assigned Docket No.: R2180.0189/P189
Inventor: Takaaki Negoro et al.
Title: SEMICONDUCTOR DEVICE HAVING DMOS AND CMOS

ON SINGLE SUBSTRATE

Sheet 10 of 25

FIG. 7E

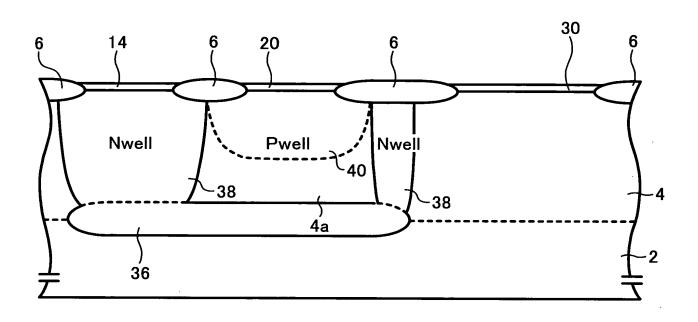
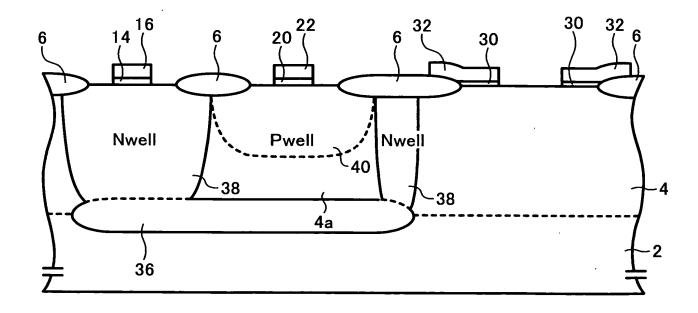


FIG. 7F



Docket No.: R2180.0189/P189

Title: SEMICONDUCTOR DEVICE HAVING DMOS AND CMOS

ON SINGLE SUBSTRATE

Sheet 11 of 25

FIG. 7G

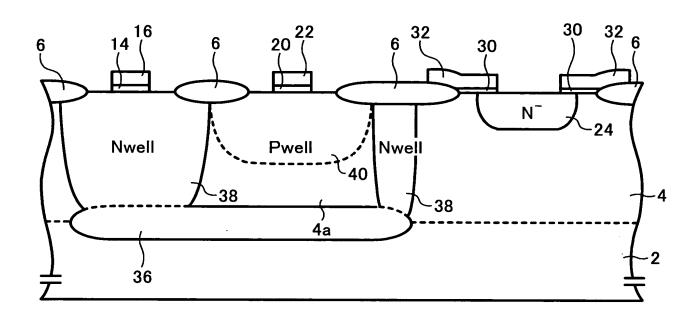
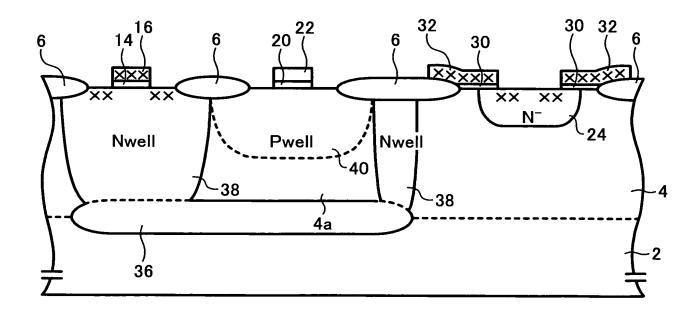


FIG. 7H



App No.: Not Yet Assigned Docket No.: R2180.0189/P189 Inventor: Takaaki Negoro et al.
Title: SEMICONDUCTOR DEVICE HAVING DMOS AND CMOS ON SINGLE SUBSTRATE
Sheet 12 of 25

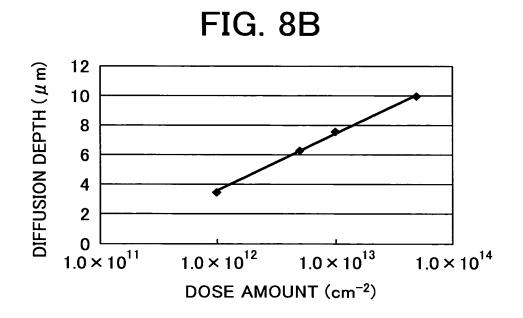
FIG. 8A

(E) HLD NOISON 2

1.0 × 10¹²

1.0 × 10¹³

DOSE AMOUNT (cm⁻²)



App No.: Not Yet Assigned Docket No.: R2180.0189/P189 Inventor: Takaaki Negoro et al.
Title: SEMICONDUCTOR DEVICE HAVING DMOS AND CMOS ON SINGLE SUBSTRATE

Sheet 13 of 25

FIG. 8C

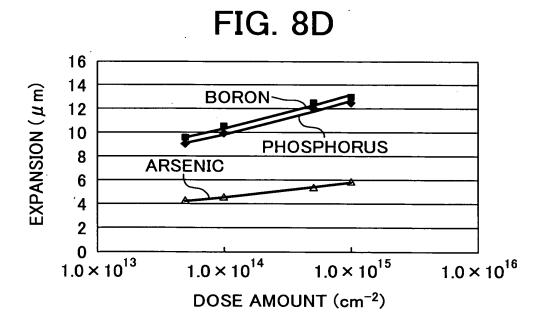
10

8

BORON
PHOSPHORUS

ARSENIC
ARSENIC
1.0 × 10¹³
1.0 × 10¹⁴
1.0 × 10¹⁵

DOSE AMOUNT (cm⁻²)



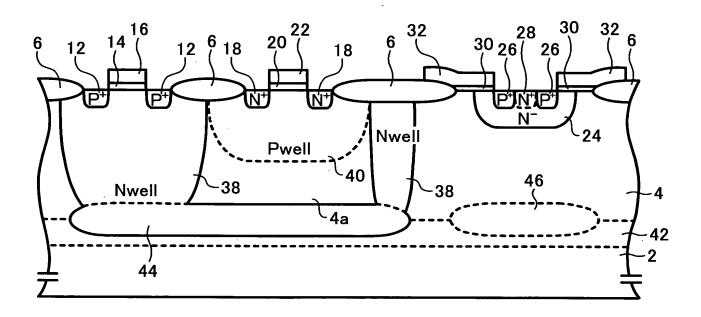
Docket No.: R2180.0189/P189

App No.: Not Yet Assigned Docket No.: R2180.0189/P189 Inventor: Takaaki Negoro et al. Title: SEMICONDUCTOR DEVICE HAVING DMOS AND CMOS

ON SINGLE SUBSTRATE

Sheet 14 of 25

FIG. 9



App No.: Not Yet Assigned Docket No.: R2180.0189/P189 Inventor: Takaaki Negoro et al.

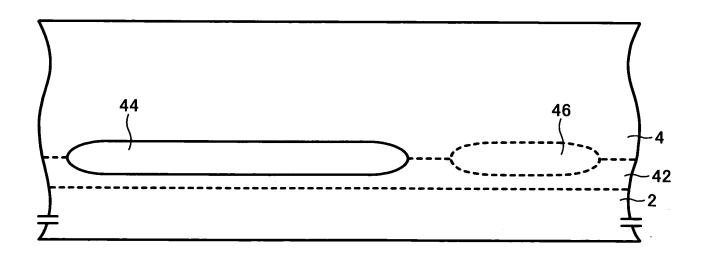
Title: SEMICONDUCTOR DEVICE HAVING DMOS AND CMOS

ON SINGLE SUBSTRATE

Sheet 15 of 25

FIG. 10A

FIG. 10B



App No.: Not Yet Assigned Docket No

Docket No.: R2180.0189/P189

Inventor: Takaaki Negoro et al.

Title: SEMICONDUCTOR DEVICE HAVING DMOS AND CMOS

ON SINGLE SUBSTRATE

Sheet 16 of 25

FIG. 10C

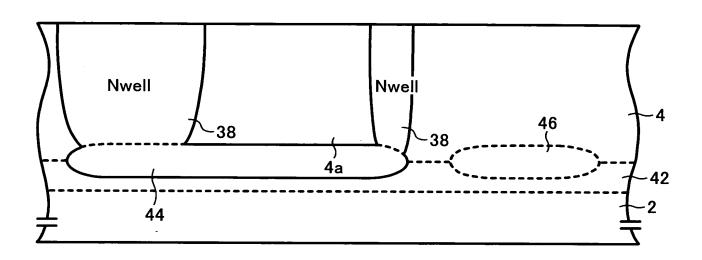
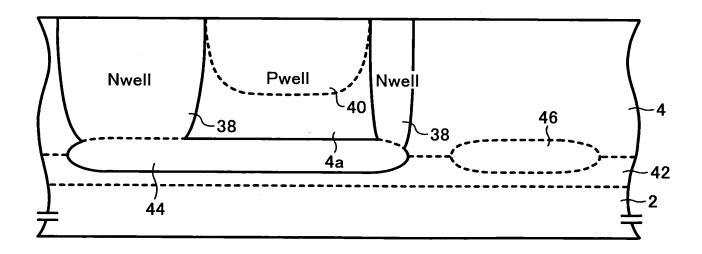


FIG. 10D



App No.: Not Yet Assigned Docket No.: R2180.0189/P189 Inventor: Takaaki Negoro et al. Title: SEMICONDUCTOR DEVICE HAVING DMOS AND CMOS Docket No.: R2180.0189/P189

ON SINGLE SUBSTRATE

Sheet 17 of 25

FIG. 10E

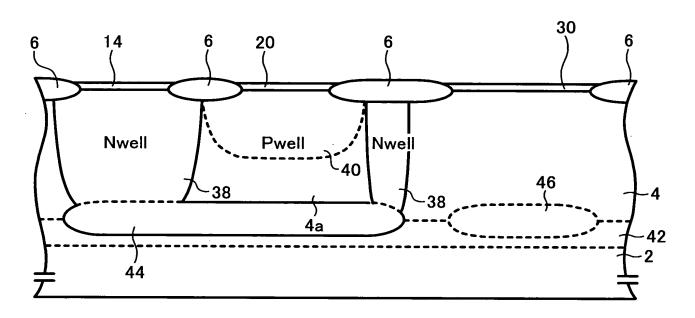
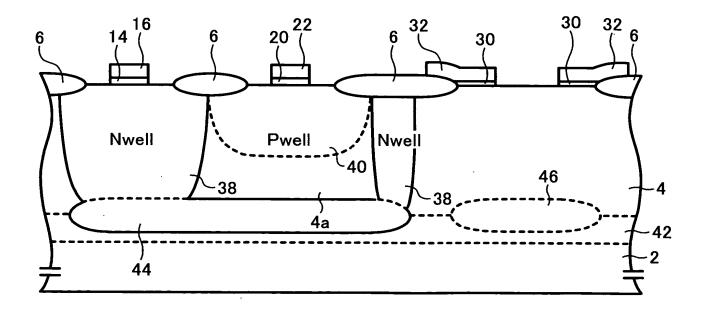


FIG. 10F



Docket No.: R2180.0189/P189

Title: SEMICONDUCTOR DEVICE HAVING DMOS AND CMOS ON SINGLE SUBSTRATE

Sheet 18 of 25

FIG. 10G

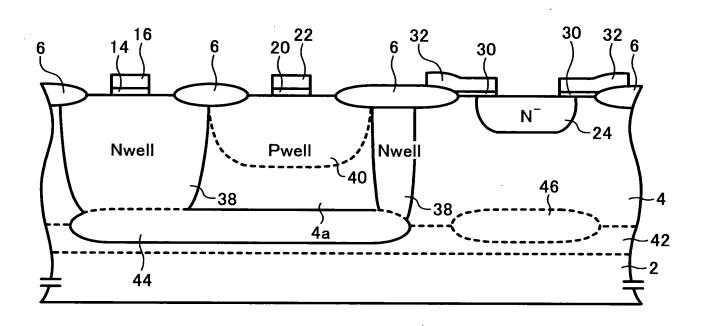
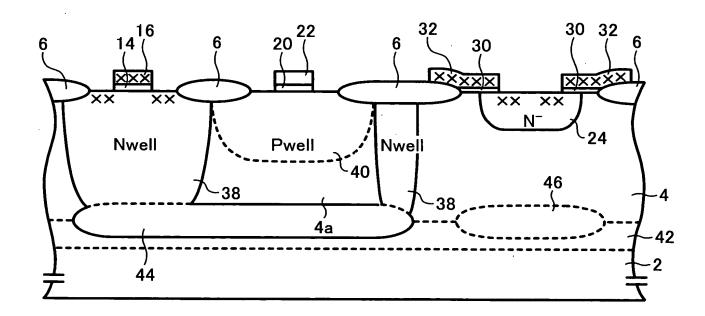


FIG. 10H

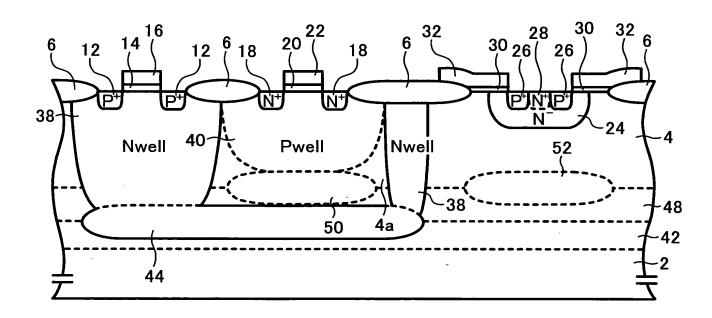


Docket No.: R2180.0189/P189

App No.: Not Yet Assigned Docket No.: R2180.0189/P189
Inventor: Takaaki Negoro et al.
Title: SEMICONDUCTOR DEVICE HAVING DMOS AND CMOS
ON SINGLE SUBSTRATE

Sheet 19 of 25

FIG. 11

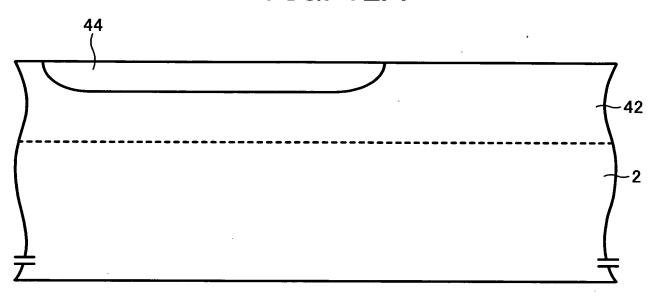


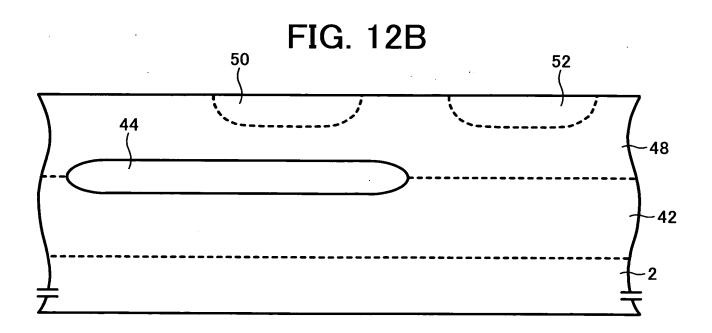
App No.: Not Yet Assigned Docket No.: R2180.0189/P189
Inventor: Takaaki Negoro et al.
Title: SEMICONDUCTOR DEVICE HAVING DMOS AND CMOS Docket No.: R2180.0189/P189

ON SINGLE SUBSTRATE

Sheet 20 of 25

FIG. 12A





App No.: Not Yet Assigned Docket No.: R2180.0189/P189 Inventor: Takaaki Negoro et al.

Title: SEMICONDUCTOR DEVICE HAVING DMOS AND CMOS ON SINGLE SUBSTRATE

Docket No.: R2180.0189/P189

Sheet 21 of 25

FIG. 12C

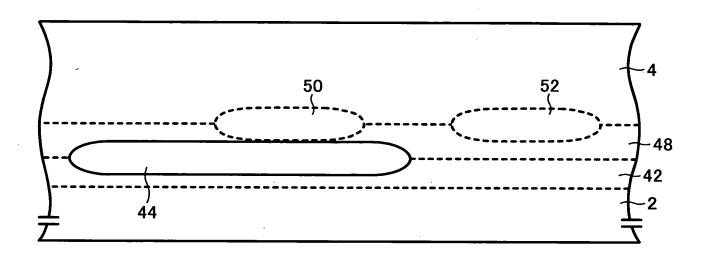
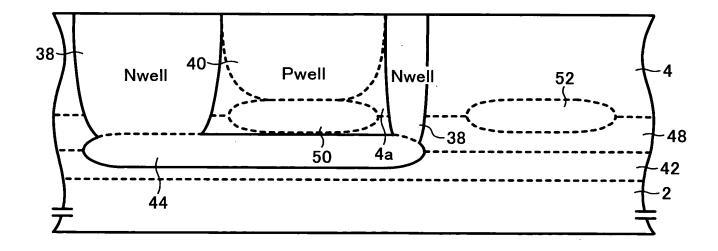


FIG. 12D



Docket No.: R2180.0189/P189

Title: SEMICONDUCTOR DEVICE HAVING DMOS AND CMOS
ON SINGLE SUBSTRATE

Sheet 22 of 25

FIG. 12E

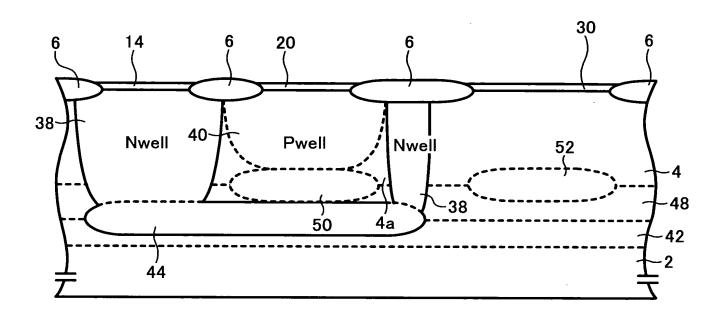
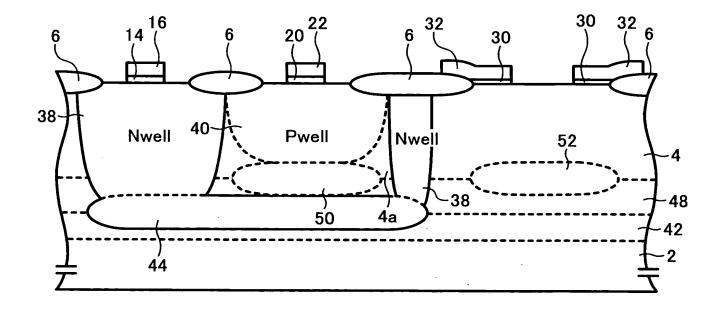


FIG. 12F



Docket No.: R2180.0189/P189

Title: SEMICONDUCTOR DEVICE HAVING DMOS AND CMOS

ON SINGLE SUBSTRATE

Sheet 23 of 25

FIG. 12G

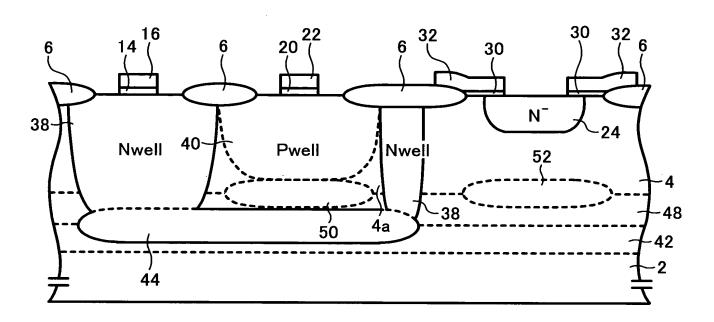
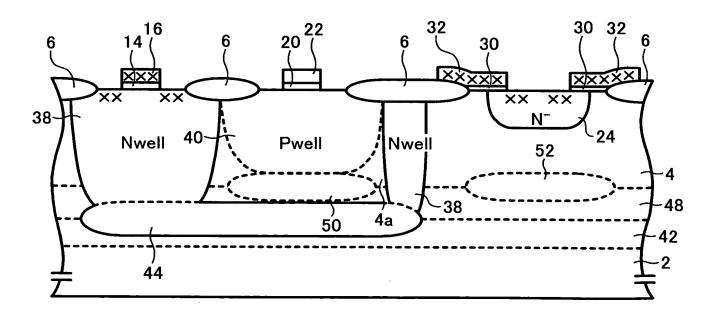


FIG. 12H



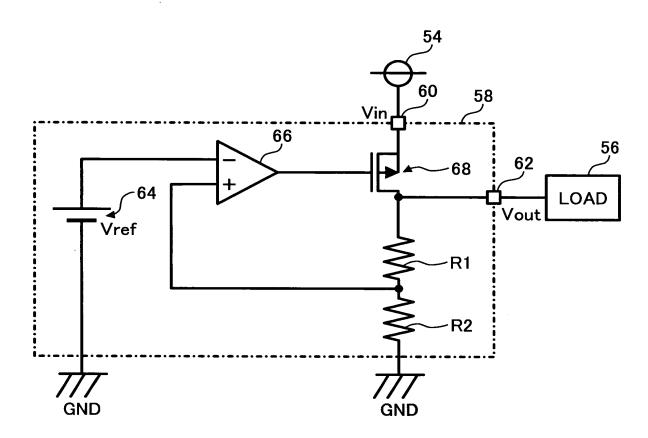
App No.: Not Yet Assigned Docket No.: R2180.0189/P189
Inventor: Takaaki Negoro et al.
Title: SEMICONDUCTOR DEVICE HAVING DMOS AND CMOS

Docket No.: R2180.0189/P189

ON SINGLE SUBSTRATE

Sheet 24 of 25

FIG. 13



App No.: Not Yet Assigned Docket No.: R2180.0189/P189
Inventor: Takaaki Negoro et al.
Title: SEMICONDUCTOR DEVICE HAVING DMOS AND CMOS
ON SINGLE SUBSTRATE Docket No.: R2180.0189/P189

Sheet 25 of 25

